

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of the existing traffic control signal at the intersection of MD 22 and MD 543 in Harford County, Maryland. The modification involves replacing the ~~detectors~~ *detectors with* conduit, and handholes for Eastbound MD 22. MD 22 is considered to run in an east/west direction.

II. INTERSECTION OPERATION

The intersection operates in NEMA eight (8) phase, full-traffic-actuated mode. There are exclusive/permisive left turn phases for both the east and westbound movements of MD 22. The MD 22 through movements operate concurrently. There are exclusive/permisive left turn phases for both the north and southbound movements of MD 543 along with a concurrent right turn overlap phase for the MD 22 eastbound to southbound movement. The MD 543 through movements operate concurrently.

The existing cabinet/controller and phasing are to be utilized.

EQUIPMENT LIST

- B. Equipment to be furnished and/or installed by the Contractor.  
All equipment in this list shall have catalog cuts submitted for approval prior to installation.

| Quantity | Units | Specification Section | Description   |
|----------|-------|-----------------------|---|
| Lump Sum | LS    | 108                   | Mobilization.   |
| Lump Sum | LS    | 104                   | Maintenance of traffic.   |
| 1        | CY    | 205                   | Test pit excavation.  |
| 2        | EA    | 811                   | Handhole.   |
| 2        | EA    | ---                   | Micro-loop probe (set of 3) with 500 ft. lead-in cable.                         |
| 40       | LF    | 815                   | Sawcut for signal loop detector.  |
| 10       | LF    | 805                   | 1 in. liquid tight flexible non-metallic conduit for loop detector sleeve.      |
| 230      | LF    | 805                   | 2 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.           |
| 30       | LF    | 805                   | 2 in. polyvinyl chloride (Schedule 80) electrical conduit - slotted in roadway. |
| Lump Sum | LS    | ---                   | Removal of existing traffic signal equipment.                                   |
| Lump Sum | LS    | ---                   | As-built for S.H.A. (on CADD).  |

CONTACT LIST

The contact persons for District #4 are as follows:

Mr. Dave Malkowski  
District Engineer  
410-321-2810

Mr. Randall Scott  
Assistant District Engineer - Traffic  
410-321-2781

Mr. Joseph McMahon  
Assistant District Engineer - Utility  
410-321-3460

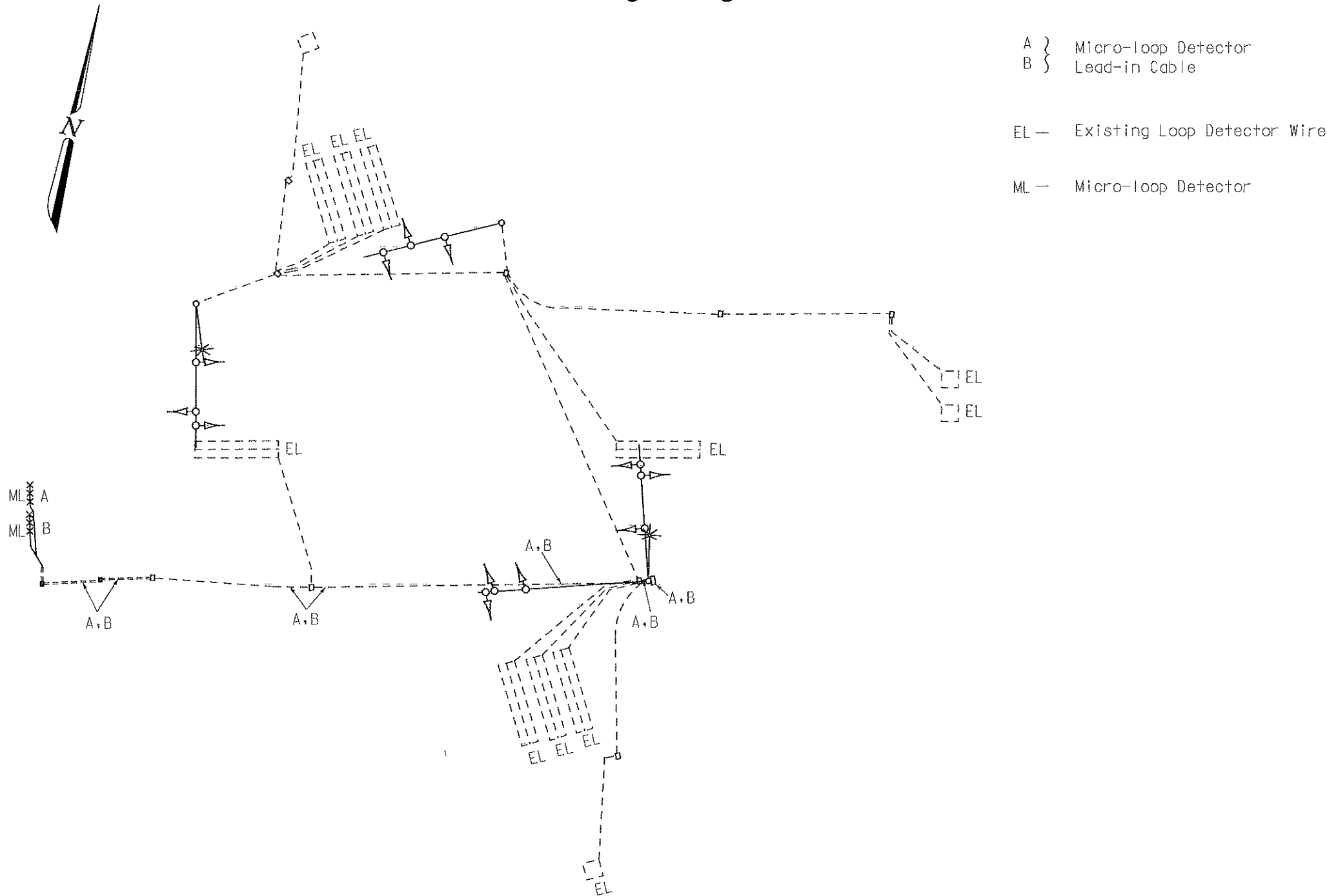
Mr. Dave Ramsey  
Assistant District Engineer - Maintenance  
410-321-2761



Mr. Richard L. Daff  
Chief, Traffic Operations Division  
410-787-7630

Phase Chart

|   | 1        | 2        | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | 11      | 12      |   |
|---|----------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|
| Phase 1 & 5   | R<br>←G  | R<br>←G  | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | ↗ |
| 1 & 5 Change to Phase 1 & 6 or Phase 2 & 5 or Phase 2 & 6 |          |          |         |         |         |         |         |         |         |         |         |         | ↗ |
| Phase 1 & 6   | ←G<br>←Y | ←G<br>←Y | G<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | ↘ |
| 1 Change  | ←G<br>←Y | ←G<br>←Y | G<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | R<br>←Y | ↘ |
| Phase 2 & 5   | R<br>←G  | R<br>←G  | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | ← |
| 5 Change  | R<br>←G  | R<br>←G  | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | ← |
| Phase 2 & 6   | G<br>←Y  | G<br>←Y  | G<br>←Y | G<br>←Y | G<br>←Y | G<br>←Y | G<br>←Y | G<br>←Y | G<br>←Y | G<br>←Y | G<br>←Y | G<br>←Y | ← |
| 2 & 6 Change  | Y<br>←G  | Y<br>←G  | Y<br>←G | Y<br>←G | Y<br>←G | Y<br>←G | Y<br>←G | Y<br>←G | Y<br>←G | Y<br>←G | Y<br>←G | Y<br>←G | ← |
| Phase 3 & 7   | R<br>←G  | R<br>←G  | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | ↘ |
| 3 & 7 Change to Phase 3 & 8 or Phase 4 & 7 or Phase 4 & 8 |          |          |         |         |         |         |         |         |         |         |         |         | ↘ |
| Phase 3 & 8   | R<br>←G  | R<br>←G  | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | ↘ |
| 3 Change  | R<br>←G  | R<br>←G  | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | ↘ |
| Phase 4 & 7   | R<br>←G  | R<br>←G  | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | ↘ |
| 7 Change  | R<br>←G  | R<br>←G  | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | ↘ |
| Phase 4 & 8   | R<br>←G  | R<br>←G  | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | ↘ |
| 4 & 8 Change  | R<br>←G  | R<br>←G  | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | R<br>←G | ↘ |
| Flashing Operation  | FL/Y     | FL/Y     | FL/Y    | FL/Y    | FL/Y    | FL/Y    | FL/R    | FL/R    | FL/R    | FL/R    | FL/R    | FL/R    | ↕ |

Wiring Diagram



|  |  |                     |  |  |                     |  |                      |  |           |  |
|--|--|---------------------|--|--|---------------------|--|----------------------|--|-----------|--|
| <div>Revision " J "</div> <div><div>The Traffic Group, Inc.<br/>410-931-6600<br/>Fax 410-931-6601</div></div> | APPROVALS  |                     | <div> MARYLAND DOT - STATE HIGHWAY ADMINISTRATION</div> <div>Office of Traffic &amp; Safety</div> <div>TRAFFIC ENGINEERING DESIGN DIVISION</div> <div>(General Information Plan)</div> <div>MD 22 at MD 543</div> |  |                     |  |                      |  |           |  |
|  | TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION |                     |  |  |                     |  |                      |  |           |  |
|  | ASST. CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION |                     | DRAWN BY: Frank Hoeckel  |  | F.A.P. NO. N/A      |  | TS NO. 263J-GI       |  | SHEET NO. |  |
|  | CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION       |                     | CHECKED BY:  |  | S.H.A. NO. BW996M82 |  | T.I.M.S. NO. E-058   |  | 2 OF 2    |  |
|  | DIRECTOR, TRAFFIC & SAFETY                       |                     | SCALE: N/A   |  | COUNTY: Harford     |  | LOG MILE: 12002203.5 |  |           |  |
|  |  | DATE: July 11, 2000 |  |  |                     |  |                      |  |           |  |